



“ARNOLD” Australian Made

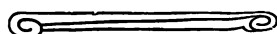
OXY-ACETYLENE EQUIPMENT

—FOR—

Welding - Cutting - Brazing

Lead-burning - Heating

De-Carbonizing, etc.



Manufacturers or Distributors of

OXYGEN	ACETYLENE	HYDROGEN	CARBOGEN
CARBONIC ACID GAS	NITROUS OXIDE	NITROGEN	
ETHYLENE	LIQUID AIR	CARBIDE	

Australian Oxygen & Industrial Gases Pty. Ltd.

Registered Office and Works:

550-562 LATROBE STREET, MELBOURNE, C. 3.

Showrooms, Sales and Service Departments:

327-331 SPENCER STREET, MELBOURNE, C. 1.

Telephone: F 2101 (4 lines).

AGENTS:

BALLARAT—Messrs. Loveland & Haslem, Dana Street, Ballarat.

BENDIGO—Messrs. Campbell, Connelly & Co. Pty. Ltd., Cr. High and Forest Streets, Bendigo.

SALE—Messrs. S. Lacey & Sons Pty. Ltd., Raymond Street, Sale.

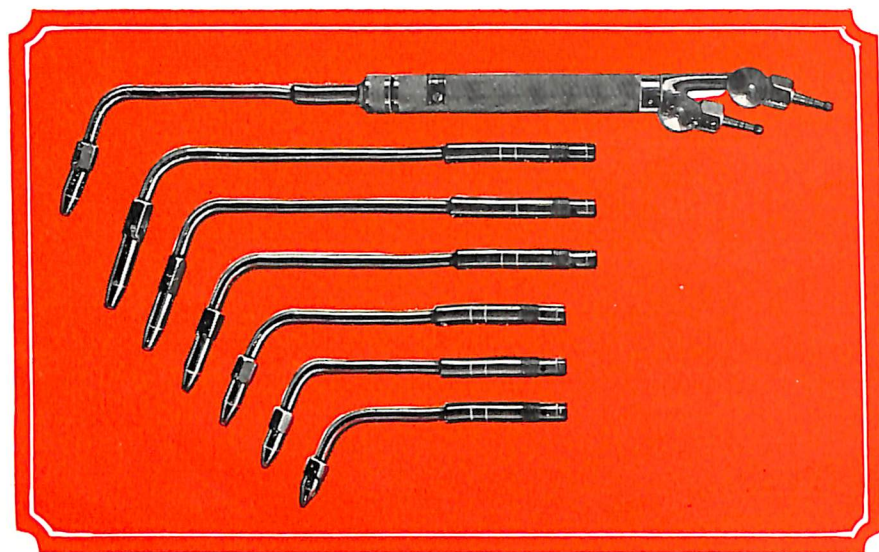
SOUTH AUSTRALIA—Messrs. Western Oxygen Co. Ltd., Bellingham St., Torrensville, Adelaide.

WESTERN AUSTRALIA—Messrs. Western Oxygen Co. Ltd., Price Street, Subiaco.

TASMANIA—Northern: Messrs. B. C. Ralph & Co., 101 Charles Street, Launceston.

Southern: Messrs. Charles Davis Ltd., 60 Elizabeth Street, Hobart.

NEW "ARNOLD" ALL-PRES



For many years, "ARNOLD" engineers have visualized an ideal welding torch and worked towards it.

Until quite recently the fulfilment of their wish did not appear to be a possibility, but the "ARNOLD" All-Pressure Torch definitely conforms to the specification of their ideal.

Some of the main features of this ideal specification are:—

PRESSURES:

Acetylene at any pressure from a few inches of water upwards, either from generators or cylinders, is suitable for this torch.

Relatively low oxygen pressure is sufficient, but higher oxygen pressures will not cause backfires. Thus all the gas is used from both cylinders.

HEAT RESISTING:

The tips are made from solid drawn electrolytic copper. This metal is very difficult to machine, but undoubtedly it is the most satisfactory material for standing up to arduous heat conditions. The tips are of ample size, but are not unnecessarily weighty. Sizes up to 7 are screwed to the barrel, and can be removed for cleaning or easily renewed if damaged.

NEEDLE VALVES:

These are definitely of a radical, but a vastly superior design to the usual. The spindle is short and stumpy, thus ensuring freedom from breakage. The gland nut is made of the same size hexagon as the hose nut and is, therefore, easily tightened with the hose nut spanner.

Gland packing is stamped from a special self-lubricating material, and is easily renewed if the instructions on the envelope containing the spares are adhered to.

WEIGHT:

The elimination of brass castings by light solid-drawn and forged parts has considerably reduced the weight of the torch when compared with torches of similar capacity.

MIXER:

The two gases are mixed in a carefully proportioned mixer for each size tip, and this is the main feature which has completely eliminated backfires, the bugbear of the welding industry. The mixer is silver-soldered to the barrel.

It is essential that perfectly tight joints be always easily and perfectly made to retain the non-backfiring characteristic. This can permanently be ensured by occasionally renewing the gland washers on the barrel adaptor. These washers are supplied in an envelope with instructions, which make fitting easy.

Welders of long experience will know immediately that the flame of this torch is the ideal flame about which, until now, they have only dreamed.

ALL-PRESSURE WELDING TORCH

The very large flame range enables the operator to use a large flame to quickly bring the metal to the desired heat. It can then be turned down to an extra soft, but very hot, flame, which melts and flows the metal together without any agitation of the molten pool which is present when a harsh flame is used.

These characteristics are specially noticeable when this torch is used with dissolved acetylene or a high-pressure generator, but even when used with low-pressure acetylene it has a remarkable flame range.

GAS PRESSURES:

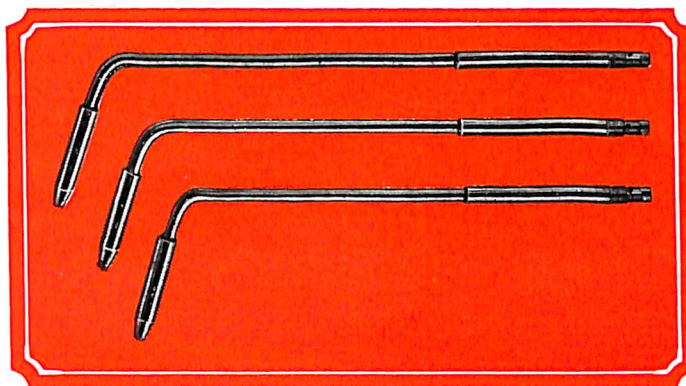
The suitable oxygen pressures which are stamped on each tip assembly, are set out in the following table:—

NEW "ARNOLD" ALL-PRESSURE WELDING TORCH.

Tip No.	1	1LP	2	3	4	5	6	7	8	9	10
Oxygen pressure lbs./sq. in.	10	10	15	20	25	25	25	35	35	35	35

When using dissolved acetylene or acetylene from a high-pressure generator, set acetylene regulator at 10 lbs./sq. in.

EXTRA FITTINGS FOR NEW "ARNOLD" ALL-PRESSURE WELDING TORCH.



TIPS Nos. 8, 9, and 10: For welding heavy sections. Tips are silver-soldered to the barrel.

TIP No. 1 ON No. 1 TIP ASSEMBLY: For very small sheet work.

"RADIATOR TIP" ON No. 1 TIP ASSEMBLY: For radiator repairs.

TIPS Nos. S4, S5, and S6:

These tips have the same size outlets as Standards Nos. 4, 5, and 6, and hence are used on the corresponding Standard Tip Assemblies. Having been designed for use in confined spaces, they have been considerably shortened.

HOSE NIPPLES:

We recommend $\frac{3}{16}$ -in. hose nipples for oxygen and high-pressure acetylene, and $\frac{3}{8}$ -in. hose nipples for low-pressure acetylene. $\frac{5}{16}$ -in. hose nipples are also available.

BARRELS:

The barrels have been designed for work indicated by the tip, but barrels of any length or bend can be made to order.

SPANNER:

The tip spanner fits tip, hose nuts, and needle valve gland nuts.

AIR-ACETYLENE FITTINGS:

When used with high-pressure acetylene, a wide range of air-acetylene fittings, such as torches, soldering irons, paint burners, etc., are available.

OXY-COAL GAS FITTINGS:

Special tip assemblies can be supplied to give a wide range. We recommend $\frac{3}{8}$ -in. hose nipple for the coal gas.

CUTTING ATTACHMENT:

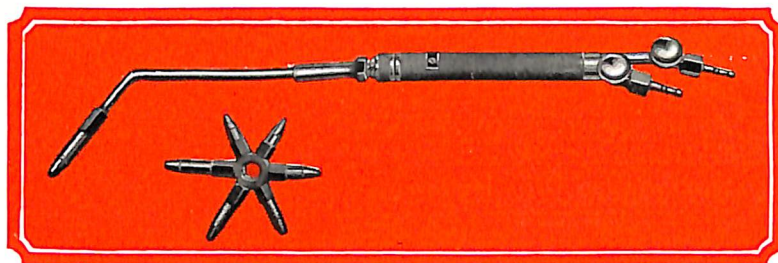
The cutting attachment, as illustrated later, can be easily and quickly fitted.

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For use with low-pressure acetylene, a special injector assembly can be supplied for each tip.

For use with high-pressure acetylene, the one mixer can be used with all tips.

. . New . .
"ARNOLD" High Pressure Welding Torch



IMPORTANT.—This is the latest model "ARNOLD" High Pressure Welding Torch, and is a modification of the New "ARNOLD" All-Pressure Welding Torch, for use with Dissolved Acetylene or High-Pressure Generator Acetylene only.

For many years the "ARNOLD" Welding Torch has been a definite leader. Possibly the biggest contributing factor to this leadership was the fact that all "ARNOLD" Torches up to the release of this new model were designed with a unique gas mixing device, in which the acetylene was supplied to the torch at a slightly higher pressure than the oxygen.

The cutting attachment has now become an essential extra fitting for a welding torch, necessitating the use of higher oxygen pressures than those for which the welding torch was originally designed.

"ARNOLD" engineers have for some years past been striving to evolve a torch that would work with high oxygen pressures and still retain the important characteristic that the "ARNOLD" Welding Torch is non-backfiring under all conditions.

Success has rewarded their research, and the torch now being supplied has this once-thought impossible feature. The new "ARNOLD" Torch is non-backfiring when used as a Welding Torch or with a Cutting Attachment.

The sensational efficiency and convenience make this the most desirable torch ever developed for a wide range of industrial uses.

The suitable pressures for each tip are given on the pressure and gas consumption table (see later).

**EXTRA FITTINGS FOR NEW
"ARNOLD" HIGH - PRESSURE
WELDING TORCH.**

TIPS Nos. 8, 9, and 10. — For welding heavy sections. Each of these tips has its separate mixer, the tip and the mixer both being silver soldered to the barrel.

TIPS Nos. O and "RADIATOR." — For very small sheet work, radiator repairs, etc.

TIPS Nos. S4, S5, and S6. — These tips have the same size outlets as Standard Nos. 4, 5, and 6, but having been designed for use in confined spaces, they have been considerably shortened.

12-in., 18-in., and 30-in. STANDARD BEND BARREL. — For hot jobs and welds in inaccessible places.

9-in. SHORT BEND BARREL. — For use with Tips Nos. S4, S5, and S6 in confined spaces.

9-in. STRAIGHT BARREL. — For welding straight ahead.

HOSE NIPPLES. — For general welding, we recommend $\frac{3}{16}$ -in. hose nipples; but $\frac{5}{16}$ -in. and $\frac{3}{8}$ -in. hose nipples are also available.

SPANNER. — The Tip Spanner fits tip, mixer, hose nuts, and needle valve gland nuts.

AIR-ACETYLENE FITTINGS. — A complete range of Air-Acetylene Fittings, such as torches, soldering irons, paint burners, etc., is available.

OXY-COAL GAS FITTINGS. — Special tip assemblies can be supplied to give a wide range. We recommend $\frac{3}{8}$ -in. hose nipple for the coal gas.

CUTTING ATTACHMENT. — The cutting attachment, as illustrated later, can be easily and quickly fitted.

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